Case 108. 31-year-old male construction worker died due to injuries sustained when he fell with trusses that collapsed.

On August 8, 2005, a 31-year-old male construction worker died due to injuries sustained when he fell with trusses that collapsed during a building construction operation. The deceased was a member of a 9-person crew. The deceased had been setting trusses all morning on the day of the incident and had been working after lunch for approximately ½ hour. The crew all worked at the same jobs they had been performing for the last three days. The owner was checking trusses for layout and looking over the trusses in general. The trusses were set by using a crane to swing the truss and set it on the wall. After nailing the truss to the blocks that were nailed on the top plate, the deceased and coworker #1 would then go inside the truss about 10 feet and install blocking. At the same time coworkers #2 and #3 would install blocking along the top. When the truss was secured, coworker #1 would go back to the West wall and signal the crane to let off the load. Coworkers #2 and #3 would unhook the lifting device and call all clear. Coworker #1 would signal the crane to lift out. At the time of the incident, coworker #1 was working on the west top plate and the deceased was working on the east wall plate, approximately 14 feet above the concrete anchoring the trusses, as they were set. Coworker #2 was working from an elevated JLG work platform and coworker #3 was working from an elevated rough terrain forklift platform installing 27-inch long braces on the top chord of the trusses. When coworkers #2 and #3 finished installing the bracing on the top chord, they would climb out of their lifts and assist coworker #1 and the deceased who were installing bracing on the inside of the bottom chords. The owner was working inside the trusses installing bracing also. The owner saw the top chord of a truss deflect approximately 10 inches about 10 feet away from the West wall. He asked coworker #1 if either of the lifts were against the trusses, to which the answer was no. He then saw two more trusses deflect the same way the first one had. Within three seconds of the second truss deflection, he heard a loud cracking noise. It appeared to coworker #1 that some of the trusses that they had set that morning dropped straight down from the east side, off of the 2- x 8-inch wood wall. Then the remaining trusses began to fall in a domino effect, falling toward the North where the other trusses had dropped off the wall. During this time, the deceased was standing on the trusses, between the last and the next to last truss. When the trusses fell, the deceased fell approximately 15 feet to the concrete below. He struck his head on the concrete. 911 was called and the deceased was taken to a local hospital and then transferred to another hospital where he died the next day. A urine drug screen revealed the presence of cannabinoids.

MIOSHA issued the following 7 Serious citations to the employer.

Serious:

GENERAL RULES, PART 1, RULE 114(2).

An accident prevention program shall, as a minimum, provide for all of the following:

a. Designation of a qualified employee or person with a responsibility to administer the program.

b. Instruction to each employee regarding the operation procedures, hazards, and safeguards of tools and equipment when necessary to perform the job.
c. Inspections of the construction site, tools, materials, and equipment to assure unsafe conditions that could create a hazard are eliminated.
d. Instruction to each employee in the recognition and avoidance of hazards.
e. Instruction to each employee who is required to handle or use known poisons, toxic materials, caustics, and other harmful substances regarding all of the following:
    i. The potential hazards
    ii. Safe handling
    iii. Use
    iv. Personal hygiene
    v. Protective measures
    vi. Applicable first aid procedures to be used in the event of injury
f. Instruction to each employee if known harmful plants, reptiles, animals, or insects are present regarding all of the following:
    i. The potential hazards
    ii. How to avoid injury
    iii. Applicable first aid procedures to be used in the event of injury.
g. Instruction to each employee who is required to enter a confined space regarding all of the following:
    i. The hazards involved.
    ii. The necessary precautions to be taken.
    iii. The use of required personal protective equipment.
    iv. Emergency equipment.
    v. The procedures to be followed if an emergency occurs.
h. Instruction in the steps or procedures to be followed in case of an injury or accident or other emergency.

Company safety program is not being followed.
(a) Program does not have a designated employee to administer said program
(c) No inspections to the construction site to eliminate unsafe conditions
(d) No instruction to employees concerning the hazards associated with installing 79+ foot long trusses.

Serious:

ACT 154 PUBLIC ACT OF 1974, 408.1011(a).
The employer did not furnish to each employee, employment and a place of employment which is free from recognized hazards that are causing, or are likely to cause, death or serious physical harm to the employee.

Employees who are installing wooden trusses that are 79 feet 8 ¼ inches long, are not following BCSI 1-03.

(1) Inadequate top and bottom chord diagonal bracing

(2) Inadequate top and bottom chord lateral bracing
(3) Some metal truss spacers being used as bracing
(4) Ground bracing is inadequate
(5) Installation crew is unaware of bracing requirements
(6) Inadequate web member diagonal bracing
(7) Some blocks (bracing) only have one 16d nail per truss
(8) Contractor is not following truss manufacturers recommendations to consult a professional engineer for temporary bracing system.

Serious:

PERSONAL PROTECTIVE EQUIPMENT, PART 6, RULE 622(1).
A helmet, as prescribed in R408.40621, shall be used to protect the employee where a hazard or risk of injury exists from falling or flying objects or particles or from other harmful contacts or exposures.

No hard hats. Employees who are working around and under trusses that are being or have been installed, are exposed to possible injury from harmful contacts.

Serious:

SCAFFOLDS AND SCAFFOLD PLATFORMS, PART 12, RULE 1243(19).
The platform shall be lowered to ground level for an employee to enter or exit, except where elevated work areas are inaccessible or hazardous to reach. An employee may exit the platform with the knowledge and consent of the employer. When exiting to unguarded work areas, fall protection shall be provided and used as required in construction safety standard, Part 45, Fall Protection, being R408.44501 et seq of the Michigan Administrative Code. An employee shall not climb on any part of a lift truck when attempting to enter or exit the platform.

Employee is climbing in and out of elevated scaffold work platform that is being elevated by a JCB rough terrain forklift. Exit height is approximately 14 feet above concrete and employee is exiting to install truss bracing.

Serious:

GUARDING OF WALKING AND WORKING AREAS, PART 21, RULE 2159(3).
A floor, platform, stair, runway, or ramp shall be free of hazardous projections.

Employees working above four unprotected water feed pipes that are from 19 to 36 inches above concrete floor. One employee is landing trusses while standing on steel beam and other employee is climbing in and out of elevated work platform to install bracing.

Serious:

AERIAL WORK PLATFORMS, PART 32, RULE 3209(14).
An employer shall not allow employees to exit an elevated aerial work platform, except where elevated work areas are inaccessible or hazardous to reach.

Employees may exit the platform with the knowledge and consent of the employer. When exiting to unguarded work areas, fall protection shall be provided and used as required in construction safety standard, Part 6, Personal Protective Equipment, being R408.40631 of the Michigan Administrative Code.

No fall protection. Employee is climbing in and out of elevated JLG elevating work platform that is approximately 14 feet above the concrete to install truss bracing. On a visit to the job site, one employee is climbing in and out of the JLG lift while doing work on the store front.

Serious:

FALL PROTECTION, PART 45, RULE 4502, REF OSHA 1926.501(b)(2).

i. Each employee on a walking/working surface (horizontal and vertical surface) with an unprotected side or edge which is 6 feet (1.8m) or more above a lower level shall be protected from falling by the use of guardrail systems, safety net systems, or personal fall arrest systems. Exception: when the employer can demonstrate that it is infeasible or creates a greater hazard to use these systems, the employer shall develop and implement a fall protection plan which meets the requirements of paragraph (k) of 1926.502.
ii. Each employee on a walking/working surface 6 feet (1.8m) or more above a lower level where leading edges are under construction, but how is not engaged in the leading edge work, shall be protected from falling by a guardrail system, safety net system, or personal fall arrest system. If a guardrail system is chosen to provide the fall protection, and a controlled access zone has already been established for leading edge work, the control line may be used in lieu of a guardrail along the edge that parallels the leading edge.

    No written fall protection plan on site. Employees are:
    (1) Installing 79+ foot long trusses where the bottom chord is 14 feet above concrete.
    (2) Installing roof sheeting where the eave height is 14 feet above sand.
    (3) Climbing out of work platforms to install truss bracing.